



TIM W. GILLEN, PE, PP, CME (1991-2019)
BRUCE M. KOCH, PE, PP, CME
LOUIS J. PLOSKONKA, PE, CME
TREVOR J. TAYLOR, PE, PP, CME
BEHRAM TURAN, PE, LSPR
LAURA J. NEUMANN, PE, PP
DOUGLAS ROHMEYER, PE, CFM, CME
ROBERT J. RUSSO, PE, PP, CME
JOHN J. HESS, PE, PP, CME

May 18, 2021

## Via Email and US Mail

Tom Sahol – Township Administrator Township of Chesterfield 295 Bordentown-Chesterfield Road Chesterfield, NJ 08515

Re: Old York Country Club Redevelopment Traffic Impact Study Review 228 Old York Road Block 701, Lot 2.01 Our File No. HCD00062.01

Dear Mr. Sahol:

In accordance with your authorization, our office has performed a review of the above referenced Traffic Impact Study including the following documents:

Traffic Impact Study prepared by Bright View Engineering, dated April 27, 2021.

The Traffic Impact Study details the impacts along the nearby roadway network for a proposed development that will consist of a 1,134,000 sf warehouse building. The warehouse will have two (2) access driveways along Old York Road (CR 660), one which would allow access to the site for tractor trailers, and one which would allow access for passenger vehicles.

The report provided indicates that all tractor trailers entering/exiting the site will be guided toward US Route 206, and trucks would be restricted from traveling north on Old York Road. Regular vehicular traffic would be permitted to travel on Old York Road through the Township.

We offer the following comments for review and consideration:

## Traffic Impact Study

- 1. The 2017 NJDOT volumes were grown using a background growth factor of 1.50% to 2020 volumes before the 2020 count volumes collected by Bright View Engineering, LLC were compared to each other. The 2020 counts were then adjusted by 61% and 31% for the AM and PM peak hours, respectively, to match the background growth of US Route 206.
  - a. It is unclear what stores were open, partially open, or closed in the area during the September 2020 counts due to the pandemic. While counts were adjusted, the typical traffic patterns and volumes could be skewed if local roads were being used less compared to the main roads. Additional local traffic could increase the Level of Service (LOS) and delay for roads such as Old York Road and Georgetown Road.

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Chesterfield Township Planning Board
Re: Old York Country Club Rehab
Traffic Impact Study Review

May 18, 2021 Our File No. HCDP00062.01 Page 2

2. Per the Institution of Traffic Engineers (ITE) Trip Generation Manual 10<sup>th</sup> Generation, the proposed warehouse will increase trips per the below table:

Land Use Code	Size (sf)	AM Peak Hour			PM Peak Hour		
(LUC)		In	Out	Total	In	Out	Total
Warehouse (150)	1,134,000	101	55	155	46	147	193
Applicant's Numbers		149	44	193	58	157	215

The Traffic Engineer utilized average rates of the Peak Hour of Adjacent Street Traffic to be conservative which is higher than the Peak Hour of Generator, Fitted Curve Equation which is typically used. This will provide a more conservative analysis.

- 3. The Traffic Impact Study utilized a gravity model with Journey to Work data from the "2011-2015 ACS Survey." The Traffic Impact Study acknowledges that delays on US Route 206 could have the potential to redirect vehicles to other roadways per the sensitivity analysis distribution. There is concern that redirected traffic would utilize County Route 660 and drive through Crosswicks instead of utilizing Georgetown Road. If all of the vehicles that were rerouted through Georgetown Road to the north stayed on County Route 660, this would account for an additional 19 passenger vehicles heading southbound and 6 passenger vehicles heading northbound and 20 passenger vehicles heading southbound through Crosswicks during the PM peak hour. This equates to on average, less than one (1) additional vehicle every two (2) minutes passing through Crosswicks during both peak hours.
- 4. There are minimal increases of delay at all studied intersections and approaches except for approaches listed below:
  - a. The westbound right turn approach at the intersection of US Route 206 NB and Old York Road which increases from 64 seconds (LOS F) of delay to 102 seconds (LOS F) and 35 seconds (LOS E) to 146 seconds (LOS F) during the AM and PM peak hours, respectively.
    - i. The Applicant's Traffic Engineer is proposing to reconstruct the shoulder to provide a formal acceleration lane which would eliminate the stop condition and provide free flow operation and an acceleration lane. The reconstruction would decrease the delay to 0 seconds (LOS A). This proposed reconstruction would require NJDOT and Burlington County approval. The Applicant stated that due to existing delay along Route 206, the intersection will still experience delay due to queuing.



Chesterfield Township Planning Board
Re: Old York Country Club Rehab
Traffic Impact Study Review

May 18, 2021 Our File No. HCDP00062.01 Page 3

- b. The eastbound right turn approach at the intersection of US Route 206 SB and Old York Road from 48 seconds (LOS E) to 63 seconds (LOS F) and 188 seconds (LOS F) to 227 seconds (LOS F) during the AM and PM hours, respectively. The Applicant's Engineer stated that cars utilize the shoulder to accelerate before merging into traffic. While there is a small shoulder, it does not appear that there is a large enough shoulder to accelerate to speeds before entering the lane, especially for truck traffic. It should be noted that there is a signalized intersection approximately 450 feet north of the intersection that will cause platooning. The gaps provided due to the upstream signal should significantly decrease the delay at the intersection.
- c. The Site Driveway combines both trucks and passenger vehicles, whereas the intent is to have two (2) separate driveways. This could be considered a worst case scenario where all approaches operate at LOS B or better.
- 5. The Traffic Impact Study Engineer mentioned that queuing along US Route 206 would cause delays at Old York Road. A 95<sup>th</sup> % queueing table is not provided. This table would help determine if any additional mitigation should be considered due to the warehouse traffic.

## 6. Conclusion:

- a. Overall, it appears that there is one intersection (Old York Road at US Route 206 NB) that would be significantly affected by the warehouse. Without mitigation the intersection will experience an increase in delay of 38 seconds and 11 seconds during the AM and PM peak hours respectively. However, proposed mitigation by reconstructing the westbound approach and including an acceleration lane would significantly lower the delay from no-build conditions by allowing vehicles to enter Route 206 and merge into traffic rather than stopping first at the intersection and waiting for a gap in traffic. This would require approval from NJDOT and Burlington County.
- b. Our office takes no exception to the report. The report utilized ITE Trip Generation volumes that provides higher numbers than the typical volumes utilized for a warehouse traffic study. This provides a conservative analysis of Build conditions to determine the worst case scenario for LOS and delay increase at overall intersections/approaches. This worst case scenario is not necessarily guaranteed to occur, and actual realized traffic delay increases may be lower.
- c. It is unclear if traffic patterns have significantly changed since the 2017 traffic counts provided in the report. Due to the Covid-19 pandemic, there could be a higher or lower amount of vehicles utilizing local streets than what is provided within the report which could then increase or lower the delays along local streets. However, given the constraints of collecting actual updated traffic data during the pandemic, the



Chesterfield Township Planning Board Re: Old York Country Club Rehab Traffic Impact Study Review May 18, 2021 Our File No. HCDP00062.01 Page 4

methodology used to estimate non-pandemic level volumes is acceptable and has become standard practice for traffic impact studies and reports over the past year. .

Should you have any questions regarding this application, please feel free to call.

Very truly yours, **CME ASSOCIATES** 

Russell Schlafer, PE, PTOE *Traffic Engineer* 

RS:CD